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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,232	02/26/2002	Robert J. McKee	PRCR18521	4741

7590 12/22/2004

Crutsinger & Booth
1601 Elm, Ste 1950
Dallas, TX 75201

EXAMINER

WHITE, DWAYNE J

ART UNIT	PAPER NUMBER
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3745

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/083,232

Applicant(s)

MCKEE ET AL.

Examiner

Dwayne J White

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16, 18-29, 31-35, 37-45 and 47-52 is/are rejected.
- 7) ☒ Claim(s) 17, 30, 36, 46 and 53 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Response to Arguments***

Applicant's Amendment dated 27 September 2004 has been fully considered but is deemed not persuasive. Claims 1-53 are pending. Applicant's correction of the informality cited in the previous Office Action has been noted with appreciation. Objection to the disclosure has been withdrawn.

Applicant's arguments concerning Harada et al. have been considered. Applicant generally states that Harada et al. do not teach the measure of fluid flow in the recirculation zone as claimed by Applicant or even recognize the existence of a recirculation zone and therefore does not read on Applicant's claims. The Examiner respectfully disagrees. Applicant describes the recirculation zone as being a zone defined proximate the wall of the inlet passage and proximate the impeller immediately upstream of the impeller. Since Harada et al. states that sensor S1 is placed to monitor such parameters as fluid flow, flow rate, flow speed etc. and Figure 5 shows the sensor S1 being placed in the inlet proximate the wall of the inlet passage and upstream of the impeller, it is the position of the Examiner that the sensor is indeed within the recirculation zone even if Harada et al. does not explicitly disclose that the zone is called a recirculation zone.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4, 7, 10, 12 -15, 18, 21, 25-28, 31, 33, 37, 39-41, 43, 44 and 49-52 are rejected under 35 U.S.C. 102(b) as being anticipated by Harada et al. (5,913,248). Harada et al. teach an apparatus and method of detecting the occurrence of surge or incipient surge in a compressor, the compressor having a casing 1, an inlet passage, an inlet passage wall, a recirculation zone in the inlet passage, inlet guide vanes 9, an impeller 3, and a sensor (col.6, line 52) located proximate to the impeller and the inlet passage wall; said compressor is operated so that a fluid flow is established in the inlet passage and is controlled through the compressor at least by altering the inlet guide vanes 9 (col. 6, line 18+) such that characteristics of the fluid flow in the inlet passage is measured proximate to the passage wall and proximate to the impeller; wherein measuring the fluid flow includes measuring a tangential component (col. 12, line 63) to the fluid flow, measuring a substantial decrease (col. 2, line 35) of the flow, and using a fluid velocity sensor to measure the fluid flow (col. 6, line 51).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 5, 6, 9, 11, 16, 19, 20, 23, 24, 29, 32, 35, 38, 42, 45, 47, 48 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada et al. ('248) in view of Gaston (4,594,051). Harada et al. teach the subject matter as stated above but do not teach the measuring

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of the fluid flow including detecting a reversal, measuring the fluid flow temperature, or measuring the changes in the fluid flow temperature.

Gaston teaches a method for detecting surge in a compressor including the detection of a reversal of the fluid flow (col. 1, line 24), and having a temperature sensor (col. 1, line 54) located near the inlet that sensing a sudden temperature rise and therefore a change in the temperature. Since both Harada et al. and Gaston teach a compressor for detecting surge wherein there is a sensor located in the inlet portion of the compressor, it would have been obvious at the time the invention was made to one having ordinary skill in the art to include the detection of reversal and the measurement of temperature and temperature change while measuring the fluid flow of Harada et al. as taught in Gaston for the purpose of measuring every fluid flow characteristic possible for the sake of preventing surge.

Claims 8, 22, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada et al. ('248) in view of Gunn et al. (5,224,836). Harada et al. teach the subject matter as stated above but do not teach controlling the fluid flow includes increasing the fluid flow to the inlet passage.

Gunn et al. teach in column 5, line 55 a controller capable of operating a compressor having nine different modes in which one of the modes includes increasing the compressor speed; increasing the compressor speed will increase the fluid flow to the inlet passage', wherein surge is detected. Since both Harada et al. and Gunn et al. teach compressors having a method of detecting surge, it would have been obvious at the time the invention was made to one having ordinary skill in the art to add a method of increasing the fluid flow to the compressor of Harada et al. as taught by Gunn et al. for the purpose of maintaining a rate of flow so as to avoid surge.

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CONCLUSION

Allowable Subject Matter

Claims 17, 30, 36, 46 and 53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

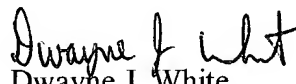
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwayne J White whose telephone number is (571) 272-4825. The examiner can normally be reached on 7:30 am to 5 pm T-F and alternate Mondays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Dwayne J. White
Patent Examiner
Art Unit 3745

DJW


EDWARD K. LOOK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700

12/20/04